

# Canon Paleo Curriculum

## Unit: 3 Evolution

### Lesson Plan 7

#### Making Fossil Casts

##### Supplies:

- Molds of the fossils (available from Florissant Fossil Beds National Monument)
- Plastic bucket or bowl for mixing the plaster (cottage cheese or yogurt containers work well)
- Hydrocal white cement (this can be obtained from Threewit-Cooper Cement, 2900 Walnut St., Denver CO. 80205, Phone (303) 296-1666). It costs approximately \$29.00 for 100 lbs. Local stucco businesses may also carry this product.
- Spoons for mixing the plaster
- Water
- Kitchen Bouquet for staining cast (Kitchen Bouquet can be purchased in the seasoning section of grocery stores)
- Optional: India ink and No. 4 Sable art brush

**Concepts:** Since it is impractical and unreasonable to study real fossils, this activity allows students to create fossil casts that have the appearance and detail of the original.

**Introduction:** This activity will allow you to make beautiful fossil casts from molds of two of the Florissant fossils. The molds are of the fossil wasp, the emblem of the monument, and the branches and cone of the fossil *Sequoia*.

##### Procedure

1. Begin by washing the mold by putting a small amount of soap or detergent, add water, rub gently and pour the water out. Leave the mold damp but not dry. The soap will act as a wetting agent.
2. Use the plastic container to mix the plaster. In order to determine how much water you will need for the plaster, fill your latex mold with water and then pour this water into a clean bowl or bucket. Discard about 1/3 of this water.
3. Carefully sprinkle the plaster powder into the container of water, being careful to sift the plaster evenly all the way to the edges. This is important because the plaster must accumulate in the water evenly. You must try to avoid creating a peak in the middle of the bowl, but evenly distribute the plaster into the water. Continue this until the water will no longer absorb the plaster, leaving a little dry powder on the surface.

4. Once enough plaster has been sifted to nearly the top of the water, you can begin to stir the mixture carefully and slowly with a spoon. Keep the contained tilted at an angle to allow you to stir, keeping the spoon below the water level and keeping air bubbles to a minimum. It is important to keep air bubbles to a minimum.



5. When the mixture is ready to pour, it should have the consistency of heavy cream or cake batter.
6. Pour the mixture slowly and steadily into the mold. Roll and tip the mold during the pouring to insure that air bubbles are released. Tilt, tap gently and rotate the mold until all the trapped air bubbles have been released.
7. The cast is now left out in an open area and allowed to dry completely. When completely dried, gently remove the cast from the mold, being careful not to break the cast. When finished, the latex mold should be completely washed and allowed to dry.
8. You can now stain the replica by creating a solution of Kitchen Bouquet and water. It takes approximately a 5:1 ratio of water to Kitchen Bouquet to get the color of the fossil shales. You can experiment with this to achieve the desired color. Dip the replica into the solution, and set out to dry.
9. You may also use a solution of Kitchen Bouquet and India ink to “paint” the fossil but this requires a very tiny art brush and very fine motor skills, which might be difficult for young children.